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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/774,316	02/06/2004	Eric R. Smith	2004B009	8535

7590 05/26/2006

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EXAMINER	
AN, SANG WOOK	

ART UNIT	PAPER NUMBER
1732	

DATE MAILED: 05/26/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/774,316	SMITH ET AL.	
	Examiner	Art Unit	
	Sang W. An	1732	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *06 February 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-19* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-19* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *06 February 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *2/6/2004*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

3. Claims 1-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Debras et al (6063878) in view of Hancock et al (Canada 961998).

Regarding claims 1 and 2, Debras et al teach blow molding or extruding polyethylene into shaped article (col 1 lines 25-33); perceiving difficulty to convert high molecular weights (does not explicitly teach that the problem is cuffing but this is an inherent problem in the blow-molding/extrusion process); then provides a second polyethylene having a lower melt index than said first polyethylene (col 3 lines 42-66 & col 4 lines 1-5). Although Debras et al do not explicitly teach that the second

polyethylene has lower melt index, inference could be made by the fact that the first polymer having melt index of 1-2 g/10 minutes would go to a final melt index of lower than 0.1 g/10 minutes after the first polymer has been blended with the second polyethylene. Debras et al also teach blow molding the second composition (col 1 lines 25-33). However, Debras et al do not explicitly teach perceiving cuffing defects and providing small amount of a low molecular weight polyethylene glycol to correct for such defects. Nevertheless, Hancock et al teach perceiving gel streaking in extruding polyethylene films (pg 2 lines 15-16) and adding small amount of a low molecular weight polyethylene glycol in order to solve the problem (pg 3 lines 6-10). Therefore it would have been obvious to use Hancock et al's teaching in Debras et al's process for preparing blow-molded polyethylene in order make a film which is free of gel streaking (pg 3 lines 6-10).

Regarding claims 3-7, Debras et al do not teach adding polyethylene glycol. However, Hancock et al teach that the amount of polyethylene glycol added to the composition is 0.01 to 0.1 weight percent of the olefin polymer in the extrusion composition (pg 3 lines 16-18; examiner notes that extrusion and blow-molding are analogous technologies as suggested by the primary reference (Debras et al, col 1 lines 30-31). Therefore it would have been obvious to use Hancock et al's teaching in Debras et al's process for preparing blow-molded polyethylene in order make a film which is free of gel streaking (pg 3 lines 6-10).

Regarding claim 8, Debras et al do not teach that the polyethylene glycol has a molecular weight of from about 300 to about 500. However, Hancock et al teach that

polyethylene glycol has a molecular weight of about 100 to 200,000 (pg 3 line 15). Therefore it would have been obvious to use Hancock et al's teaching in Debras et al's process for preparing blow-molded polyethylene in order make a film which is free of gel streaking (pg 3 lines 6-10).

Regarding claim 9, Debras et al teach the first polyethylene polymer having a melt index of 1 g/10 minutes (col 2 lines 61-64). He also teaches that the final polymer (blend of first and second polyethylene) has a melt index of a 0.1 g/10 minutes (col 4 lines 4-5). From this one may infer that the second polyethylene polymer would have had a melt index of anywhere between 0.1-1 g/10 minutes. This range falls within the claimed range. Examiner would like to also note Debras et al recognizes that melt index is a control variable (col 4 lines 1-4).

Regarding claim 10, Debras et al teach the first polyethylene polymer having a melt index of 1 g/10 minutes (col 2 lines 61-64). He also teaches that the final polymer (blend of first and second polyethylene) has a melt index of a 0.1 g/10 minutes (col 4 lines 4-5). From this one may infer that the second polyethylene polymer would have had a melt index of anywhere between 0.1-1 g/10 minutes. This range falls within the claimed range. Examiner would like to also note Debras et al recognizes that melt index is a control variable (col 4 lines 1-4). However, he does not teach adding polyethylene glycol and IRGANOX™ 1076. Nevertheless, Hancock teaches adding polyethylene glycol (pg 3 lines 6-9) and IRGANOX™ 1076 (pg 8 line 22). Therefore it would have been obvious to use Hancock et al's teaching in Debras et al's process for preparing blow-molded polyethylene in order make a film which is free of gel streaking

(pg 3 lines 6-10) and in order to improve stability of the polymer at high processing temperatures (pg 7 lines 1-10).

Regarding claim 11, Debras et al teach blow-molding a composition comprising HDPE (col 1 lines 7-12 & col 1 lines 30-31). Although he does not explicitly teach reducing cuffing, it is an inherent problem in the blow-molding/extrusion technology. However Debras et al is silent about adding low molecular weight polyethylene glycol to provide a new composition. Nevertheless, Hancock et al teach adding polyethylene glycol (pg 3 lines 6-10). Therefore it would have been obvious to use Hancock et al's teaching in Debras et al's process for preparing blow-molded polyethylene in order make a film which is free of gel streaking (pg 3 lines 6-10).

Regarding claim 12, Debras et al do not teach adding polyethylene glycol. However, Hancock et al teach that the amount of polyethylene glycol added to the composition is 0.01 to 0.1 weight percent of the olefin polymer in the extrusion composition (pg 3 lines 16-18; examiner notes that extrusion and blow-molding are analogous technologies as suggested by the primary reference (Debras et al, col 1 lines 30-31). Therefore it would have been obvious to use Hancock et al's teaching in Debras et al's process for preparing blow-molded polyethylene in order make a film which is free of gel streaking (pg 3 lines 6-10).

Regarding claim 13, Debras et al teach that the new compositions do not contain a fluorocarbon polymer, phosphate or stearate (col 1 lines 7-12).

Regarding claim 14, Debras et al do not teach an antioxidant selected from hindered phenolics. However, Hancock et al teach hindered phenolics (pgs 7-8).

Therefore it would have been obvious to use Hancock et al's teaching in Debras et al's process for preparing blow-molded polyethylene in order to improve stability of the polymer at high processing temperatures (pg 7 lines 1-10).

Regarding claim 15, Debras et al do teach HDPE (col 1 lines 5-12) but do not teach a new composition consisting of polyethylene glycol and an antioxidant selected from hindered phenolics. However, Hancock et al teach a new composition consisting of HDPE (pg 5 line 24), polyethylene glycol (pg 3 lines 6-10), and hindered phenolics (pgs 7-8). Therefore it would have been obvious to use Hancock et al's teaching in Debras et al's process for preparing blow-molded polyethylene in order make a film which is free of gel streaking (pg 3 lines 6-10) and in order to improve stability of the polymer at high processing temperatures (pg 7 lines 1-10).

Regarding claim 16, Debras et al do not teach PEG-400. However, Hancock et al teach PEG 100-200,000 (pg 3 line 15). Therefore it would have been obvious to use Hancock et al's teaching in Debras et al's process for preparing blow-molded polyethylene in order make a film which is free of gel streaking (pg 3 lines 6-10). Regarding claim 17, Debras et al teach the first polyethylene polymer having a melt index of 1 g/10 minutes (col 2 lines 61-64). He also teaches that the final polymer (blend of first and second polyethylene) has a melt index of a 0.1 g/10 minutes (col 4 lines 4-5). From this one may infer that the second polyethylene polymer would have had a melt index of anywhere between 0.1-1 g/10 minutes. This range falls within the claimed range. Examiner would like to also note Debras et al recognizes that melt index is a control variable (col 4 lines 1-4). Therefore discovering the optimum value of

a result effective variable involves only routine skill in the art "In re Boesch," 617F.2d 272,205 USPQ215 (COPA 1980).

Regarding claims 18 and 19, Debras et al teach blow molding or extruding polyethylene into shaped article (col 1 lines 25-33); perceiving difficulty to convert high molecular weights (does not explicitly teach that the problem is cuffing but this is an inherent problem in the blow-molding/extrusion process); then provides a second polyethylene having a lower melt index than said first polyethylene (col 3 lines 42-66 & col 4 lines 1-5). Although Debras et al do not explicitly teach that the second polyethylene has lower melt index, inference could be made by the fact that the first polymer having melt index of 1-2 g/10 minutes would go to a final melt index of lower than 0.1 g/10 minutes after the first polymer has been blended with the second polyethylene. Debras et al also teach blow molding the second composition (col 1 lines 25-33). However, Debras et al do not explicitly teach perceiving cuffing defects and providing small amount of a low molecular weight polyethylene glycol to correct for such defects. Nevertheless, Hancock et al teach perceiving gel streaking in extruding polyethylene films (pg 2 lines 15-16) and adding small amount of a low molecular weight polyethylene glycol in order to solve the problem (pg 3 lines 6-10). Therefore it would have been obvious to use Hancock et al's teaching in Debras et al's process for preparing blow-molded polyethylene in order make a film which is free of gel streaking (pg 3 lines 6-10).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sang W. An whose telephone number is (571) 272-1997. The examiner can normally be reached on Mon-Fri 7 AM - 3:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Colaianni can be reached on (571) 272-1196. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Sang Wook An
Patent Examiner
Art Unit 1732
May 2, 2006

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SUPERVISORY PATENT EXAMINER